Glioma patient-reported outcome assessment in clinical care

We congratulate Terri Armstrong and colleagues¹ on their publication concerning glioma patient-reported outcome assessment in clinical care and research. We strongly agree with the perceived need to track symptoms and function that can potentially inform clinicians and investigators about whether standard and investigational treatments provide measurable benefits or adverse effects for patients. Care should be given to evoke additional aspects, which might further divulge, in our opinion, relevant patient insights and further perspectives.

Some symptoms reflected in patient-reported outcome assessments might be non-invasive additions to disease monitoring, which could reliably predict disease progression without overburdening patients or clinical care.² This approach could also potentially imply for clinicians the need for a change in therapeutic approach for individual patients. An important aspect of this approach is how often some specific patient-reported outcomes should be measured. Particularly, how frequently would be often enough to accurately evaluate all potential changes? Furthermore, it might be important to assess the psychological effect of the disease on the patient themselves. One should consider, for example, the patient's ability to face disease and to cope with the symptoms. A patient alone might not be as resilient as a patient surrounded by loved ones. In this context, a potentially useful tool would also be a happiness scale.³ Moreover, part of these assessments would specifically apply to some neuropsychological aspects and their changes during the time-course of a disease, in the absence or presence of further chemotherapy or radiotherapy, both of which are frequently used in treating gliomas after microsurgical resection. One should also remember that some deficits (ie, cognitive) could impair a patient's ability to comprehend information and specifically to further provide informed consent for treatment. Additionally, new ongoing phase 1 clinical glioma trials⁴ should be detailed and published online to provide patients with an exhaustive view of what they can expect from health-care practitioners during such investigations.

In perspective, it is important to consider that using such tools (ie, patient-reported outcomes) would allow, in the near future, development of machine learning and glioma patient-reported biomarkers, while decreasing health-related costs in following up such patients during their treatment and afterwards.

In the era of molecular glioma classification,⁵ initiatives such as that by Armstrong and colleagues¹ allow for patient-oriented assessment, placing patients first, before any other modern diagnostic tool, which is a welcome return to health care that is based on fascinating human nature.

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*Constantin Tuleasca, Jonathan Knisely, Henri-Arthur Leroy, Andreas F Hottinger, Iulia Peciu-Florianu, Marc Levivier, Nicolas Reyns

constantin.tuleasca@chuv.ch

Centre Hospitalier Regional Universitaire de Lille, Department of Neurosurgery and Neuro-oncology, Neurosurgery Service, F-59000 Lille, France (CT, H-AL, IP-F, NR); Department of Clinical Neurosciences, Neurosurgery Service and Gamma Knife Center, Lausanne University Hospital, Lausanne, Switzerland (CT, AFH, ML); University of Lausanne, Faculty of Biology and Medicine, Lausanne, Switzerland (CT, ML); Weill Cornell Medicine, Department of Radiation Oncology,New York—Presbyterian Hospital, New York, NY, USA (JK); and University of Lille, Inserm, CHU Lille, U1189—ONCO-THAI—Image Assisted Laser Therapy for Oncology, Lille, France (H-AL, NR)

- Armstrong TS, Dirven L, Arons D, et al. Glioma patient-reported outcome assessment in clinical care and research: a Response Assessment in Neuro-Oncology collaborative report. Lancet Oncol 2020; 21: e97–103.
- 2 Butterbrod E, Bruijn J, Braaksma MM, et al. Predicting disease progression in high-grade glioma with neuropsychological parameters: the value of personalized longitudinal assessment. J Neuro-Oncol 2019; 144: 511-18.
- 3 Liu B, Floud S, Pirie K, et al. Does happiness itself directly affect mortality? The prospective UK Million Women Study. Lancet 2016; 387: 874–81.
- 4 Dupont C, Vermandel M, Leroy HA, et al. Intraoperative photodynamic therapy for glioblastomas (INDYGO): study protocol for a phase 1 clinical trial. *Neurosurgery* 2019; 84: E414–19.
- 5 Tabatabai G, Stupp R, van den Bent MJ, et al. Molecular diagnostics of gliomas: the clinical perspective. Acta Neuropathol 2010; 120: 585–92.